Needs, Task, Learner and Content Analysis

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**Needs Assessment: Integrating iPads into the Classroom**

The traditional methods of teaching are fading fast. Lecturing in front of the class no longer captures the attention of students for long periods of time during a class. In 2012 Program for International Student Assessment (PISA), released a study, showing that learners in the U.S. slipped from 25th to 31st in math since 2009; from 20th to 24th in science; and from 11th to 21st in reading this data is according to the National Center for Education Statistics, which gathers and analyzes the data in the U.S. (Weisenthal, 2013).

According to the North Carolina state standards, students will be educated using 21st Century skills (Public Schools of North Carolina, 2013). The North Carolina Department of Education is promoting the idea of the 21st century learner; school systems are working, planning and setting educational goals to meet the needs of these learners. Teaching standards across states for educators expect educators to implement technology as an instructional tool to meet the needs of diverse learners (PSNC). The introduction of technology integrated into curriculum has caused great concern for many educators. Teachers have articulated several needs about integrating technology into lessons. First, more effective training is needed to use technology and opportunities to collaborate with colleagues within the discipline to share instructional materials. Districts need to increase options for professional development in the area of technology. Schools need current technology to help aligning the implementation of technology with state standards such as iPads, laptops and other mobile devices.

iPads are considered a new trend in 21st century technology and a tool used in best practices by educators. North American curriculum and policy designers have embarked in the realization of the importance of digital media within the education process. This campaign in America is called “Educate to Innovate” as launched by President Obama The introduction of iPads in education will allow for students to receive hands on experiences and direct interaction with curriculum material (Peluso, 2012). The integration of iPads as supplemental teaching tools allow teachers to meet the needs of each student’s individual learning style. Incorporating technology in the classroom can effectively bridge the gap for students with different learning styles such as special education students with learning disabilities and students that have missed instruction through tradition standard classroom teaching (Vannata, 2001).

**Goal Statement**

The goal of the ISD team is to provide professional educators with knowledge of best practices to use and implement iPads into classroom practices as an instructional tool and a technology supported device. Presenting best practices and effective use of iPads in instructional practices will help educators meet the needs of diverse learners within a learning environment. Educators attending the workshop will become familiar with the numerous educational benefits provided by iPad devices and applications available for teachers and students across curriculums.

Educators will be introduced to ways in which they can incorporate iPads into instruction, find applications for content areas, use iPads as an assessment tool, and differentiate instruction for special needs students. Peluso (2012) identifies the iPad as a means for learners and educators alike to access one of the most intuitive and engaging forms of learning and expression ever available (as cited in Corrin, Lockyer & Bennett 2010, p. 387).

Definitions: Best practice: For purposes of this project, the best practice is determined as teaching teachers to research, implement, and analyze the implementation of technology into the classroom through apps on an iPad.

**Task Analysis**

***Goal 1***

**Goal 1:** Educators/participants will learn the basic uses and functions of an iPad, including security, accessing all necessary functions of the iPad, and how to purchase an app for their iPad.

What it is: The objective of this session will be to introduce k-12 educators/participants to basic functions and capabilities of the iPad.  Most of the educators/participants attending the professional development have little to no experience with iPad technology.  With the lack of experience driving the professional development, the initial k-12 educators will be drawn from a pool of k-12 educators that failed the tech assessment through learning.com that is required by the school district. After those k-12 educators have been serviced then the professional development will be opened up to other k-12 educators/participants. The k-12 educators/participants will be invited through a district wide e-mail, a flyer posted in teacher work rooms throughout the school, so all teachers would be invited to sign up. During this session educators/participants will learn how to complete basic functions of the iPad such as turning it on and locating installed Apps; searching the Apple Store for Apps; and purchasing Apps from a provided list.  At the end of this session educators/participants should have an idea how to download an app and begin thinking about ways they can use apps in their classroom so that they can be prepared to learn how to adequately research particular apps for the second session.

***Goal 2***

Task Analysis Goal 2

**Goal 2:** Educators/participants will learn how to research apps that include necessary features, such as data collection, to integrate with current curriculum.

What it is: In an effort to incorporate the iPad into instructional format for each instructor, the goal for research will fall into the responsibility of the instructors. The instructors will be expected to research methods and programs that will be conducive to learning and align with Common Core and curriculum guides in their classroom. The instructors will follow the guidelines presented in the session to norm for consistency in the research. The instructors will be assessed on the methods of research that is conducted concerning the iPads as well as their ability to navigate the iPad.

Participants will share the app with others in group to evaluate the quality of the application and to brainstorm thoughts of how the application can be used within the classroom. Members of the technology team will work with each group to guide discussion and help teachers develop the best instructional plan for the selected application.

Justification: The relevance of the research is to empower the instructor with the ability to properly navigate the technology. The instructors will be evaluated on their comprehension levels of the technology. The goal is to ensure that the instructors are proficient so they will be prepared to train their students in the use of the technology. Furthermore it will eliminate the fear of the technology that prevents so many instructors from incorporating the technology into instructions for the lack of being proficient.

Lastly, the research will also be beneficial for the instructors since the programs that they find can be tested in the classroom. The instructors will be responsible for searching and securing programs that will be useful for their students in the classroom. The goal is to teach the educators/participants to research practical apps during this session.

***Goal 3***

**Goal 3**: Educators/participants will implement the use of one app, which they researched and purchased, in the classroom.

What it is: This objective will allow participants to use previously learned skills about the iPad to select an application they wish to implement into a lesson. They will have the support of the technology teachers leading the session in the classroom. The technology teachers will observe, instruct, and assist the teacher with integration of the app as appropriate. The educator/participant will evaluate the app using a checklist to prepare for the fourth session.

The teachers and instructors will be grouped by subject area or selected application topics.

***Goal 4***

**Goal 4**: Educators/participants will assess, evaluate, and analyze the process of implementing the app in the classroom using their research, based on the success of the integration.

What it is: This objective strives to assess, analyze, and evaluate the success of the professional development session with respect to our initial goal. The teachers and instructors will discuss the success and failures of implementing technology using an app on the iPad in the classroom. They will discuss their confidence in using this method to continue to integrate technology in the classroom using apps and the iPad. The technology integration specialists will work with teachers to best support this use of technology in the classroom by offering to observe, co-teach, and support in one-on-one sessions based on their success and comfort with using this method of technology integration in the classroom. When teachers can effectively research, implement, and evaluate the use of an app to support/enhance/complement instruction independently, this workshop will be successful.

**Learner and Context Analysis**

The target group for the iPad professional development is a variety of adults who hold teaching and administrative positions in local schools.  This group would include men and women of varying ages who teach students in grades ranging from kindergarten to twelfth grade.  This group of learners will vary in the subject matter they teach.  These learners will come to the iPad professional development with different knowledge of iPads and how to use them in the classroom.  A survey will be conducted during the first portion of training to determine their abilities to work with the iPad.  The professional development session will allow each of the learners an opportunity to learn something new about the iPad regardless of their ability level.

The authors of this paper believe that while some learners will come to the professional development with anxiety and apprehensions, others will come excited to learn.  Each learner will come to the professional development eager to learn about iPads and apply the knowledge they gain in their classrooms.  They will be excited to share that knowledge with colleagues and friends.

The presenters will conduct this training in one of the local school’s media center.  Each attendee will have an iPad available to them for training.  The presenters will begin with the basic operation of an iPad and continue with how to research apps and implement the iPad into the classroom. This professional development will also provide attendees the opportunity to work individually and/or in groups with one of the presenters. The presenters will guide attendees throughout the professional development.   This professional development will take place in stages.

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| **iPad Professional Development Schedule** | |
| Welcome | 8:00 – 8:10 |
| Introduction of presenters | 8:10 – 8:20 |
| Intro to iPad Basics | 8:20 – 10:20 |
| Break | 10:20 – 10:30 |
| Research using the iPad | 10:30 – 12:30 cont’d 1:30 – 2:30 |
| Lunch | 12:30 – 1:30 |
| Implementation of the iPad into the Classroom | 2:30 – 4:00 (Schedule a time for visit) |
| Assessment | After school (week from training) 2:30-4:30 |

The presenters will be available after the initial training session and will visit classrooms to assist with the implementation process and to help teachers successfully use the iPad in their classrooms. To be effective with the integration of technology in the classroom, several aspects have to be considered; one aspect to consider is the learning environment and experiences of the students (Thorsen, 2009). Knowing the different learning styles of the population of students who you are working with can better equip the instructor in preparing lessons for the class (Thorsen, 2009). The use of iPads in the classroom can offset different learning styles by allowing the lessons to be tailor made for each student, and endorses their ability to work at their own pace (Thorsen, 2009).

**Instructional Strategies**

**Goal 1 Instructional Strategies:**

During the first session of this Professional Development (PD) k-12 educators/participants will be able to produce the instructional objectives by locating and purchasing, from a provided list, an App from the Apple Store.

The instructional strategies during the first session consist of visual, auditory, and kinesthetic methods.  The instructors of the session will present the k-12 educators/participants with a PowerPoint presentation, which they will have a slide by slide print out or link provided to them at the beginning of the class.  In this presentation, the instructors will go over basic functions and commands of the iPad (i.e. essential buttons-lock key, home key, volume key; where the headphones port is; key terms- dock, Apps, etc...; how to close Apps).  There will be built-in breaks in the presentation that will allow the k-12 educators/participants time to recall what was just taught and explore the iPad.

During the “How to” subset of this session, k-12 educators/participants will participate in an “I do, you do” forum.  The instructor will demonstrate a task (i.e. how to close Apps) then the k-12 educators/participants will get an allotted time to perform the same task.  This is when questions can be asked and more one-on-one instruction can be conducted.  During this time informal assessments are being made so that more attention can be given to those that need the additional help.

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| **Goal #** | **Title** | | | **Objectives** | | |
| 1 | Intro into iPad Basics | | | 1. When given a fully functional iPad, k-12 educators/participants will be able to turn on and use the Search feature of the iPad to find a given application within 5 minutes. 2. When given a fully functional iPad that is turned on, k-12 educators/participants will be able to navigate by either using the Search feature of the iPad or flipping through pages of the iPad to locate the Apple Store app within 3 minutes.   When given a list of applications, k-12 educators/participants will be able to search the Apple Store for an app and complete a purchase within 5 minutes. | | |
| **Assessments** | | | | **Activities** | | |
| At the end of session k-12 educators/participants will be given 15 minutes to complete the following tasks:   * turn on the iPad * locate the Apple Store on the iPad * search for an app in the Apple Store * purchase an app in the Apple Store | | | | iPad Scavenger Hunt (see [here](http://www.tacoma.k12.wa.us/information/departments/it/Documents/iPad-Scavenger-Hunt.pdf)) | | |
| **Instructional Content/ Materials** | | **Readings** | **Student Participation** | | **Media Development and Implementation** | **Time Allotments/ Notes** |
| - Laptop  - iPad  - Apple TV  - Dongle  - Document Camera  - Timer  - PowerPoint  - PowerPoint Notes link/ print-out  - iPad Scavenger Hunt  link/print-out  - Apps List/link | | N/A | **Intro:**  During the “You do” portion of the session.  **Navigating:**  Scavenger Hunt  **Searching:**  During their final assessment to show that they can search and purchase an App on the iPad | | Educators/participants will become more familiar with the iPad technology.  They will start off by learning the basic functions such as turning on and navigating through the pages. By the end of the session or substep the educators/participants will be able to use the iPad technology to locate and purchase an app, from a distributed list, from the Apple Store. | **Intro:**  Learning the Basics/Features of the iPad (45-60 minutes)    **Navigating:** Searching/flipping through pages (20-30 minutes)  **Searching:**  Searching/purchasing Apps in the Apple Store (20-30 minutes)  **Assessment:**  Completing start to finish task of turning on iPads to purchasing an App (15 minutes) |

**Goal 2 Instructional Strategies:**

Step two of the professional development will consist of strategic methods to enhance the professional’s ability to navigate the iPad and other technology for research purposes. The goal is to disseminate the material in a manner that will allow the professional to retain the information. The sequences of the trainings will consist of engaging the participants in direct hands on activities. The lessons will be instructor guided to provide visual representation and guided assistance throughout the process.

The professional develop will begin with visual representation of how the research can be conducted. The presentation will give several methods that can be used to conduct research. Then the interactive session will be designed to engage the participants in guided practice to enhance what the presentation represented.

Lastly, the goal will be to assess the retention of the material. This will occur through the planned activities each participant will engage in. Upon completion of the training the participants will need to be fluent with their ability to navigate the iPads and be able to articulate that ability through interactions.

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| **Goal #** | **Title** | **Objectives** | | | | | |
| 2 | Research using the iPad | 1. To provide hands on experience with conducting research 2. The participants will be expected to navigate the iPad for research purposes ( going to particular website) 3. The participants will be expected to be proficient in their use of the iPad | | | | | |
| **Assessments** | | | | | **Activities** | | | |
| 1. The participants will be observed as they use the iPads to visit multiple websites  2. The participants will also give a written representation of how to navigate the iPad to visit websites.  3. The participant will be observed navigating the iPad without referring to notes. | | | | | The participants will be given a list of website to visit and they will need to list out three facts from each site. | | | |
| **Instructional Content/ Materials** | | | **Readings** | **Student Participation** | | **Media Development and Implementation** | **Time Allotments/ Notes** | | |
| 1. iPad 2. Paper and pencil for notes 3. Smart board for how-to videos 4. List of websites | | | The participants will be given the list of websites and presentation for references. | All of the activities will be interactive.  The participants will navigate the iPads independently and with guided instructions | | Presentation will be presented, then the participants will participant in many interactive activities with guided instructions | Presentation 20 mins  Visiting website  60 min  Research activity  60 min  Assessment  45 min | | |

**Goal 3 Instructional Strategies:**

During the third session of this Professional Development (PD) k-12 educators/participants will be able to write instructional goals for an application, evaluate an application for potential instructional purposes and write a lesson plan to implement iPads into the classroom.

The instructional strategies during the third session will begin with a game based learning activity to accommodate visual, auditory, and kinesthetic learners. The k-12 educators/participants will be given an iPad with a pre-loaded application. After evaluating the application the educators/participants will participate in a game called Kahoot.it to identify possible essential instructional questions and instructional goals, for the application. After the game activity, the instructor will demonstrate ways to use an iPad in the classroom using applications and other instructional tools on an iPad using a PowerPoint presentation and printed handout.

Lastly, educators/participants will use the lesson plan template to write a lesson plan to implement the application they had researched and identified as an application to use in their instruction.

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| **Goal #** | **Title** | | **Objectives** | | | | |
| 3 | Implementation | | 1. When given a fully functional iPad and an application, k-12 educators/participants will complete a list of instructional goals for the application within 10 minutes. 2. When given a fully functional iPad, k-12 educators/participants will be able to navigate through and evaluate the quality of an application for instructional purposes within 10 minutes. 3. The k-12 educators/participants will be able to develop an instructional lesson implementing iPads into their class instruction once every two weeks. | | | | |
| **Assessments** | | | | | | **Activities** | | |
| At the end of session k-12 educators/participants will be able to   * Evaluate applications for instruction purposes * Identify learning objectives for an application * Write an instructional plan for implementing an iPad into instruction | | | | | | iPad Complete Lesson Plan Template (see [here](https://docs.google.com/document/d/142PgnYy_DVaL8Gr8XfbpxU5vRQkF9kpslC6Bmky9a7Y/edit))  Uses of iPad in the classroom presentation [here](https://docs.google.com/presentation/d/1fRPd8b_lzq68C-ANkGVKyH135qtE7O2cg4Ye3kit9qU/present#slide=id.i0) | | |
| **Instructional Content/ Materials** | | **Readings** | | **Student Participation** | **Media Development and Implementation** | | **Time Allotments/ Notes** | | |
| - Laptop  - iPad  - Apple TV  - Timer  - Laptops with internet  -PowerPoint Notes link/ print-out  - iPad Apps | | N/A | | **Intro:**  During Kahoot.it participants will compete to identify well written instructional questions and goals for applications  **Sharing:**  Educator/participants will learn other possible usage of the iPad as an instructional tool  **Assessment:**  Completion of lesson template | Educators/participants will become more familiar the concept of implementing iPad into instruction by learning how applications can correlate with Common Core Standards and instructional goals. The session will begin by participants competing in a game. By the end of the session educators/participants will be able to evaluate applications for instructional purposes. Educators/participants will write a lesson plan implementing iPads into a classroom lesson. | | **Intro:**  Game based learning (45 minutes)  **Sharing:**  Understanding different uses for iPads in the classroom  Sharing personal experiences/lessons what works what does not work. (60 minutes)  **Assessment:**  Completed lesson plan template for iPad implementation into classroom (30 minutes) | | |

**Goal 4 Instructional Strategies:**

This goal will focus on assessment, analysis, and evaluation of the entire workshop (all four sessions). The purpose of the Google Survey is to get all educators thinking about the implementation process in an effective way prior to coming to this session, and to give the instructors some initial feedback to help them guide the discussions. The educators/participants will get to reflect on what they did in the classroom and share it with others. In this author’s experience, reflection is an essential part of learning and teaching. The educators/participants will learn from the experiences of one another. They will create a list to demonstrate what went well and what could go better next time, with respect to the implementation process. Additionally, they will determine what kind of support is necessary for future success, a planning session with an instructor, an observation by an instructor, co-teaching with an instructor, or any form of support they deem best for effective implementation. The educators/participants will schedule at least one support session within two weeks of completing this fourth goal.

The instructors will use this session to gain insight into the parts of this workshop (all four sessions) that went well and what should be changed the next time the workshop is held. They will use the feedback generated by the Google Survey, Pro Con lists, discussions among the educators/participants, and the support sessions scheduled on the Google Calendar to inform their planning. It is most important for the instructors to gain insight into whether or not the teachers would be successful when researching, selecting, securing, and implementing an app on a new occasion.

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| **Goal #** | **Title** | | **Objectives** | | | |
| GOAL # 4. Educators/participants will assess, evaluate, and analyze the process of implementing the app in the classroom using their research, based on the success of the integration. | Assessment, Analysis, and Evaluation | | 1. When the implementation of the iPad app is complete, the educated/participants will evaluate their experience using the Google Survey prior to coming to this session.  2. The educators/participants will evaluate successes and failures of implementing the use of their iPad app in the classroom by creating a list of Pros and Cons.  3. The entire group of educators/participants and instructors of the session will evaluate the process by which the educators/participants were taught to research.  4. The educators/participants will determine the next steps for continued implementation by scheduling at least one observation or support meeting with a session instructor within two weeks of this session. | | | |
| **Assessments** | | | | | **Activities** | | |
| 1. All educators/participants complete the survey prior to the session.  2. Summative assessment: one instructor will support with each group as they meet to create their list.  3/4. The instructors of the session will evaluate the effectiveness of their program based on participant discussion. They will use information from the research process discussion (3) as well as next steps to be taken (teaching the instructors what to change and do differently next time). | | | | | 1. Educators/participants complete the survey prior to the session. They will be sent an email with the survey link at the end of the third session and two days before the fourth session.  2. The educators/participants will be broken into groups based on content to discuss successes and failures of implementing the use of their iPad app in the classroom by creating a list of Pros and Cons.  3. The evaluation will be completed through a thorough discussion of the Pros and Cons of the implementation.  4. The next steps will be determined based on the discussions, how the educators/participants feel about implementing the apps, and what kind of support they want in the classroom. The educators/participants will schedule at least one future observation or support session with an instructor using the Google Calendar. | | |
| **Instructional Content/ Materials** | **Readings** | **Student Participation** | | **Media Development and Implementation** | | **Time Allotments/ Notes** | | |
| 1. Google Survey  2. N/A  3. N/A  4. Google Calendar | N/A | 1. All educators/participants complete the survey prior to the session.  2. It is essential that all educators/participants contribute to the group discussion.  3. It is essential that all educators/participants and instructors participate in the discussion, giving facts and experiences to support their thoughts.  4. It is essential that the educators/participants sign up for an observation or support session with an instructor within two weeks of this session. | | 1. Create a Google Survey  2. Teachers will create the list of Pros and Cons on an iPad (using any app/email) and share it with others (to demonstrate proficiency of use of an iPad).  3. The instructors record notes or a video of the discussion for future planning of this session.  4. Creating an interactive Google Calendar where all educators/participants have access. | | 1. Completed prior to session, students should allow 5-10 minutes to complete the survey.  2. This discussion will take 45 minutes.  3. This discussion will take 45 minutes.  4. This activity will take 15 minutes. | | |

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